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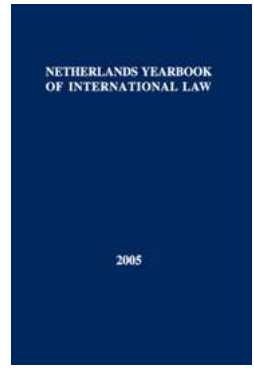

Responding to the undesired. state responsibility, risk management and precaution

Wouter G. Werner

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RESPONDING TO THE UNDESIRED. STATE RESPONSIBILITY, RISK MANAGEMENT AND PRECAUTION*

Wouter G. Werner**

1. INTRODUCTION[1]

This article started as an attempt to formulate an answer to one of the central questions posed by the editors of this volume: is it possible to identify forms of international legal accountability of states that are analytically distinct from the traditional rules of state responsibility? Answering this question, however, proved rather difficult. It required the comparison of a relatively well-defined institution in international law – state responsibility – with a concept whose meaning and legal status is

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1. I would like to thank the editors of the NYIL and the participants at the NYIL seminar on 24 February 2006 for their comments on previous drafts of this article. I would also like to thank the participants at the January 2006 VIEW workshop on international law and politics for their comments. Special thanks to Rens van Munster for his useful suggestions and comments.

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unclear and still under discussion. While state responsibility includes familiar legal notions such as breach, wrongfulness and reparation, 'accountability' is used in several different meanings, varying from 'legal accountability' as defined in the Berlin Report of the ILA (which comes close to responsibility for wrongful conduct and might even be narrower than that)[2] to the subjection of certain actors to legal rules or to judicial procedures[3] or the general notion that power-wielders should act in accordance with normative standards and that they will be sanctioned for failures to do so.[4]

Therefore, this article has taken a slightly different route in its discussion of state responsibility in relation to other institutions or mechanisms of international law. It understands the institution of state responsibility in functional terms: as a specific way of dealing with undesired events. Such a functional approach makes it possible to compare state responsibility with other methods of dealing with undesired events. In this article, attention will be focussed primarily on two possible alternative (or rather: complementary) ways of dealing with undesired events: risk management and precaution. The discussion of these alternative ways of relating to undesired events is not meant to demonstrate the irrelevance of the institution of state responsibility. After all, a violation of future-oriented obligations may still give rise to state responsibility for wrongful behaviour. However, this article hopes to demonstrate that the institution of state responsibility, which links undesired events to wrongful behaviour in the past, is increasingly accompanied by more forward looking methods, such as risk-management and precaution.

The choice of risk-management and precaution in this article is informed by the work of the sociologist François Ewald.[5] In his studies on the rise of and challenges to the welfare state, Ewald has set out three co-existing ways of dealing with undesired events: responsibility for wrongful conduct, risk-management through ´assurance´ (insurance and welfare) and precaution. The different forms of dealing with the undesired, in their turn, are linked with different understandings of the relation between law, science and social order.

Of course, one should be careful not to equate sociological concepts developed to understand developments in domestic societies with international legal concepts. If it comes to issues such as the role of fault, for example, there are considerable

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2. See e.g., the discussion of the Berlin Report of the ILA Committee ('Accountability of International Organisations', 71th Conference, 2004) by I. Dekker, *infra* pp. 83-118.

3. See e.g., the discussion of the accountability of international organizations according to domestic law by A. Reinisch, *infra* pp. 119-167.

4. R.W. Grant and R.O. Keohane, 'Accountability and Abuses of Power in World Politics', 99 *American Political Science Review* (2005) p. 29. This definition is cited in J. Brunnée's article, *supra* pp. 21-56.

5. See especially, F. Ewald, *L'Etat Providence* (Paris, Grasset 1986). See also the references in section 2.

differences between the rules governing state responsibility under international law and Ewald's concept of responsibility.[6] Moreover, no such thing as a welfare state was ever developed at the international stage. However, it would be equally mistaken to deny the existence of some strong family resemblances between Ewald's concepts and some concepts developed in international law. For one thing, both Ewald's notion of individual responsibility and the international legal rules on state responsibility define undesired events in terms of injuries that are the result from earlier breaches of law and both aim to correct, prevent and repair wrongful behaviour.[7] Moreover, the notions of risk-prevention and risk management play an increasingly important role in international law, while the principle of precaution is present in numerous treaties dealing with environmental protection and food, animal and human safety. The existence of such strong resemblances makes it possible to highlight some of the specific characteristics of state responsibility as well as some complementary mechanisms that have been developed in international law.

The article is structured as follows. The first section introduces some of the central concepts in the work of Ewald, especially his triangle 'responsibility, risk-management and precaution'. In the subsequent sections, each of the models discussed by Ewald are analysed in relation to international law and the responsibility of states. Thus, the second section takes up the institution of state responsibility under international law as a specific form of dealing with undesired events: as a form which links undesired events to past violations of law and an obligation to put things back in order. The third section shortly reiterates some of the shortcomings of state responsibility discussed by other contributors to this volume and examines the turn towards more active forms of responsibility; forms of responsibility that deal with the future and with common concerns. Special attention will be paid to the role of non-compliance procedures and to the management of risks as discussed in the ILC's Draft Articles on the Prevention of Transboundary Harm. The final section discusses how traditional forms of risk-management have come under pressure in late modernity, giving rise to the adoption of the precautionary principle in international law. Moreover, the final section takes up the way in which the precautionary principle reflects some fundamental changes in our understanding of the relation between science and public decision-making.

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6. As may be recalled, the rules on state responsibility are not necessarily based on the notion of fault. By contrast, Ewald's conception (or reconstruction) of individual responsibility is 'based on fault, thus serves as a universal converter of bad into good'. Ibid., p. 275.

7. According to Lefeber, the concept of liability in international law performs 'several functions, viz. (1) a corrective function, (2) a preventive function, (3) a reparative function': R. Lefeber, *Transboundary Environmental Interference and the Origin of State Liability* (The Hague, Kluwer Law International 1996) p. 1. See also S. Blay and J. Green, 'The Development of a Liability Annex to the Madrid Protocol', 25 *Environmental Policy and Law* (1995) pp. 24-37.

2. RESPONSIBILITY, RISK AND PRECAUTION IN EWALD'S SOCIOLOGY

2.1 **Responsibility and assurance**

One of the central topics in the work of Ewald is the way in which insurance and social security ('assurance') emerged as a form of governance in Western industrial societies since the mid 19th century.[8] The logic of assurance complemented and partly replaced the notion of individual responsibility (or: the responsibility of the 'good head of the family'[9]) that was predominant in early industrial society. The underlying idea of the notion of individual responsibility was formulated by the French statesman and lawyer Adolphe Thiers. As a matter of right, Thiers argued, 'one person cannot transfer the burdens of what happens to him'.[10] The only way in which such a transfer of burden was justified, was through the invocation of responsibility of another person for a breach of norm that has caused injuries. The aim of such a principle of social organization was the creation of prudent and provident citizens who are able to grasp the relation between freedom, responsibility and social order.

In the course of the 19th century, however, the notion of individual responsibility was challenged by a more collectivist strategy of dealing with undesired events. Crucial in this development was the further development of probabilistic and statistical thinking as well as the discovery of the professional risk.[11] As mentioned at the first French Congress on accidents at work, statistics showed the operation of a mysterious law: 'Taking a large number of workers in the same occupation, one finds a constant level of accidents year by year. It follows from this that accidents, just when they may seem to be due to pure chance, are governed by a mysterious law.'[12]

The discovery of such mysterious laws made it possible to consider accidents as calculable risks rather than (only) the result of fate, the will of God or wrongful behaviour. Is was now possible to extent the logic of insurance, that was already applied in areas such as commercial shipping for centuries, to social relations in

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8. Another important topic is the way in which the logic of insurance and assurance is undermined by the simultaneous existence of uncertainty and the danger of irreversible and irreparable damage. This topic will be taken up in section 3 of this article.

9. As Ewald, *supra* n. 5, at p. 279 argues: in France the 'good head of the family' was usually taken as the reference in defining fault in the law of responsibility in the late 19th century.

10. As quoted by Ewald, ibid., at p. 274.

11. See I. Hacking, 'How should we do the history of statistics?' in G. Burchell, C. Gordon and P. Miller, eds., *The Foucault Effect: Studies in Governmentality* (Chicago, Chicago University Press 1991).

12. Quoted in Ewald, 'Insurance and risk', in Burchell, et al., *supra* n. 11, at p. 202.

industrial society as well. Where 'responsibility' is linked to the idea that undesired situations would not arise if people behaved as they ought to behave, the logic of insurance takes as its starting point the regular occurrence of accidents; as a matter of fact: '… small matter what would have happened if …, the fact is that there is such and such a number of industrial or traffic accidents annually, that whatever the wishes may be that one cares to voice, the figures repeat themselves with overwhelming regularity'.[13]

The shift towards more collectivist dealings with undesired events was also recognized by legal scholars. Roscoe Pound, for example, identified a tendency, roughly since the mid 19th century, to 'shifting the burden from the luckless victim of injury to the public'.[14] This collectivist strategy was an inroad upon the assumption that each should bear the risks of his or her own actions and omissions. It took the form of a collective sharing of risk through insurance and/or through intervention by what Pound called the 'service state' (the welfare state)- a tendency which 'may require us to remake the whole theory of liability'.[15]

The shift towards collective dealings with accidents in industrial society shows the social nature of risks. Accidents are defined as calculable risks that occur in a larger population. In this way, the logic of insurance binds the fate of the members of the group of risk bearers; it diverts the existence of undesired events from the individual to the community that was formed through the insurance or social contract. The response to undesired events is thus no longer primarily a matter of establishing wrongful conduct, resulting injuries and the need to put things back in order, but increasingly a quest for calculability and the most efficient and fair way of sharing collective burdens. This not only made it possible to pacify social problems in industrial society,[16] but also opened up new ways of theorizing law and politics. Where traditionally theorists had sought to legitimise political society on the basis of a fictitious social contract signed 'in the dawn of its creation',[17] the

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13. Ibid., p. 202.

14. R. Pound, *An Introduction to the Philosophy of Law*, 15th rev. edn. (New Haven NJ, Yale University Press 1976) at p.96.

15. Ibid. It should be noted that Pound, while appreciating the humanitarian ideals behind the move towards the welfare state, frowned upon such collectivist dealings with undesired events: '… achieving of high humanitarian purposes through the easy method of using the involuntary Good Samaritan as the Greek playwright used the god from the machine is likewise unedifying. There ought to be a better method of making the legal order effective for humanitarian ideals than that of Robin Hood or of Lord Bramwell's pickpocket who went to the charity sermon and was so moved by the preacher's eloquence that he picked the pockets of everyone in reach and put the contents in the plate' (at pp. 103, 104).

16. As Hacking has argued: 'It is a glib but true generalization that proletarian revolutions have never occurred in any state whose assurantial technology was working properly'. Hacking, in Burchell et al., *supra* n. 11.

spread of insurance and social security symbolized the reality of such a society and the actual existence of a multitude of contracts that held individuals together.

Moreover, governing through risk-management meant an increasing focus on the future and increasing reliance on statistical and scientific insights. Both in the rise of capitalism (e.g., in finance or maritime insurance) and in the rise of the welfare state, risk-management has been associated with increasing possibilities of mastering time, based on scientific insights.

2.2 Assurance, risk and precaution

From the 1970s on, another way of relating to undesired events emerged: the precautionary approach. As will be set out in more detail below,[18] the precautionary approach developed in the environmental sector as well as in the sphere of food, animal and human safety in response to what Beck and others have called the 'conditions of reflexive modernity'.[19] One of the characteristics of reflexive modernity is that societies are increasingly confronted with uncertainties that are not the result of an *under*production of scientific knowledge and technology, but that result from an *over*production thereof. Society, in other words, is increasingly confronted with possible hazards and uncertainties that result from the process of modernization itself. As Giddens has put it: 'Risk was supposed to be a way of regulating the future, of normalising it and bringing it under our dominion. Things haven't turned out that way. Our very attempts to control the future tend to rebound upon us, forcing us to look for different ways of relating to uncertainty.'[20]

The thesis of reflexive modernization does not hold that contemporary society is necessarily more dangerous than previous societies. However, it questions the modernist assumption that the more we know about the world, the more we are able to direct it to our purposes. One of the characteristic features of reflexive modernization is that possible hazards are increasingly seen as the result of the development and application of scientific knowledge and at the same time as relatively incalculable. An example is what Ewald has called the 'two infinites of risk': the infinitely small-scale risks (biological, natural, food-related risks) and the infinitely large-scale (major technological risks or technological catastrophes).[21] More-

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17. Ewald, in Burchell et al., *supra* n. 11, at p. 210.

18. See section 4 of this contribution

19. The term 'reflexive' should not be equated with the connected term 'reflective'. Reflexive modernization indicates that modernization is increasingly confronted with its own products and thus increasingly becomes it own topic. For a discussion of the term 'reflexivity' see U. Beck, A Giddens and S. Lash, eds., *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order* (Cambridge, Polity Press 1994).

20. A. Giddens, The Reith Lectures: 'Risk', BBC News Online, 1999 <http://news.bbc.co.uk> p. 3.

over, some dangers that are produced through the process of modernization are associated with catastrophic events and irreparable damage. In this context, Beck contrasts the archetypical risk in industrial society (the accident – at work, in traffic, etc.) with what he calls the 'icons of destruction': nuclear power, environmental despoliation and genetic technology.[22] The dangers associated with these icons transcend temporal, spatial and social boundaries and have the potential to fundamentally change or even annihilate human life, at least as we know it. In line with the development of such risks, Beck describes (world) risk society as: 'A phase of development of modern society in which the social, political, ecological and individual risks created by the momentum of innovation increasingly allude the control and protective institutions of industrial society.'[23]

In (world) risk society, science assumes a different role than before. Sure, science is still omnipresent in world risk society. Even those who are critical of the impact of scientific development on, for example, the environment, need scientific backup for this critique to be taken seriously. Moreover, in law and decision-making the need to use the 'best available technology', the 'latest scientific insights' or the duty to rely on risk-assessments reflect the importance of science and technology in contemporary life. This is not surprising, given the fact that many threats in contemporary life appear as almost virtual to the layperson: they cannot be detected by the ordinary human senses, but require the 'sensory organs of science (theories, experiments, measuring instruments) to become visible and interpretable as threats at all'.[24] Risks in world risk society are thus not only the unintended result of scientific progress; they are in also in a very basic sense 'constituted' by scientific methods. At the same time, however, the capacity of science to deliver socially binding definitions of truth has declined. In early modernization, the growing impact of scientific knowledge was based on a specific division: internally, science applied methods of critique, scepticism and fallibilism, while externally the products of scientific research generally functioned as socially binding formulations of truth. Increasingly, however, the belief in science as deliverer of truth has been accompanied by an awareness that scientific statements are subject to recall and radically contextual, while scientific experts more and more publicly disagree: '… reality has sublimated into *data* that are *produced*. Thus "facts" – the former centrepieces of reality – are nothing but answers to questions that could just as well

21. F. Ewald, 'Two Infinities of Risk', in B. Massumi, ed., *The Politics of Everyday Fear* (Minneapolis MN, University of Minnesota Press 1993) at pp. 221-228.

22. See U. Beck, *Risk Society, Towards a New Modernity* (London, Sage Publications 2005); U. Beck, *Ecological Politics in an Age of Risk* (Cambridge, Polity Press 1995) U. Beck, *World Risk Society* (Cambridge, Polity Press 1999).

23. U. Beck, 'The Reinvention of Politics: Towards a Theory of Reflexive Modernization', in Beck et al., *supra* n. 19, at p. 27.

24. Beck 2005, *supra* n. 22, p. 162.

have been asked differently, products of rules for gathering and omitting. A different computer, a different specialist, a different institute – a different "reality". It would be a miracle if it did not already exist, a miracle and not science.'[25]

In the context of reflexive modernization, therefore, yet another method of dealing with undesired events had to be developed: the precautionary approach. This approach requires action to protect certain interests or values where there are threats of serious or irreversible damage, even if full scientific certainty is absent. Since the 1980s, the precautionary approach has developed as a *legal* principle in the area of international environmental protection as well as the protection of human health, food safety and plant and animal health. In section 4, we will take a closer look at some elements of the formulation of the principle in international law and its relation to the problems of reflexive modernization.

It should be noted, however, that the precautionary approach has moved beyond the purely legal sphere. As has been noticed by a growing number of commentators, the precautionary approach has entered debates on the fight against terrorism, the use of force and the balancing of liberty and national security.[26] This was already foreshadowed by the way in which, since the Cold War, western security policies were framed in terms of the handling of risks and insecurities.[27] The focus of decision-making under conditions of uncertainty has been strongly reinforced by the way in which some states – such as the US and the UK – have framed the fight against international terrorism and the spread of weapons of mass destruction. On several occasions, the fight against terrorism has been placed in a narrative that seems tailor-made for a precautionary approach: an emphasis on the need for swift action in order to prevent possible catastrophic events, on the basis of uncertain intelligence – even if that information turns out to be wrong after the fact.[28] This has led to a partial shift from policies based on deterrence, containment and reactive approaches towards policies that aim to forestall possible future

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25. Beck 2005, *supra* n. 22, p. 166.

26. C. Coker, 'Globalisation and Insecurity in the Twenty-First Century: NATO and the Management of Risk', Adelphi Paper 345, The International Institute for Strategic Studies (Oxford, Oxford University Press 2002). C. Aradau and R. van Munster, *Governing Terrorism and the (non-)Politics of Risk*, Political Science Publications N. 11 (Odense, University of Southern Denmark 2005) at <http://www.sam.sdu.dk/politics/publikationer/05Rens11.pdf>. C.R. Sunstein, *Laws of Fear, Beyond the Precautionary Principle* (Cambridge, Cambridge University Press 2005). A.M. Dershowitz, *Preemption, a Knife that Cuts Both Ways* (New York NY, Norton & Co. 2006).

27. For the increasing reliance on 'risk-management' in security matters see M.V. Rasmussen, 'Reflexive Security: NATO and International Risk Society', 30 *Millennium: Journal of International Studies* (2001) pp. 285-309; U. Beck, 'World Risk Society Revisited: The Terrorist Threat',19 *Theory, Culture & Society* (2002) pp. 39-56; M.V. Rasmussen, 'It Sounds Like a Riddle': Security Studies, the War on Terror and Risk, 33 *Millennium: Journal of International Studies* (2004) pp. 381-395.

28. Aradau and Van Munster, *supra* n. 26, illustrate their discussion of the role of the precautionary approach in security policies with some telling quotes from Prime Minister Blair. In re-

harm. Interestingly, such approaches are passionately (though not exclusively) defended by the US government, who so far has been very critical about applying precautionary approaches towards issues such as global warming or genetically modified foods. This demonstrates that the operation of and support for precautionary approach should always been considered in a particular context; against the background of the dominant values that are at stake, the perception of risks and the expected costs and benefits of precautionary action. This point will be taken up further in section 4.

2.3 State responsibility as guardian of normalcy

The rules on state responsibility for internationally wrongful acts deal with the 'general conditions under international law for the state to be considered responsible for wrongful acts or omissions, and the legal consequences which follow therefrom'.[29] This formulation captures the task that the International Law Commission had set for itself: to formulate a set of general rules regarding the responsibility of states, abstracted from the content of the primary norms that have been violated in a concrete case.

The international legal regime of state responsibility shares some basic features with the notion of individual responsibility as discussed in section 1.1. In the first place, both can be regarded as forms of social organization aimed at the creation of disciplined, formally free subjects who are able to grasp the relation between liberty, order and responsibility. The rules on state responsibility build on the idea that state sovereignty has as a corollary the obligation to live up to international legal obligations.[30] Attributable violations of such obligations by a state entail the

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sponse to critique on the invasion in Iraq, Blair answered the following: 'Sit in my seat. Here is the intelligence. Do you ignore it? But, of course, intelligence I precisely that: intelligence. It is not hard fact. It has its limitations. On each occasion, the most careful judgment has to be made taking account of everything we know and advice available. But in making that judgment, would you prefer us to act, even if it turns out to be wrong? Or not to act and hope it's OK?' (full speech available at <http://politics.guardian.co.uk/iraq/story/0,12956,1162991,00.html>). A year earlier, Blair had already given an answer to the questions he posed: 'Let us say one thing. If we are wrong we will have destroyed a threat that, at its least, is responsible for inhuman carnage and suffering. That is something I am confident history will forgive. If our critics are wrong, if we are right as I believe with every fibre of instinct and conviction I have that we are, and we do not act, then we will have hesitated in the face of a menace when we should have given leadership; that is something history will not forgive.' (full speech available at <http://www.number-10.gov.uk/output/Page4220.asp>).

29. Commentaries on the Draft Articles on Responsibility of States for Internationally Wrongful Acts, adopted by the International Law Commission at its 53rd session, 2001, p. 59. <http://www.un.org/law/ilc/texts/state_responsibility/responsibility_commentaries(e).pdf>.

30. As famously expressed in the *Island of Palmas* case, the right to territorial sovereignty 'has as corollary a duty: the obligation to protect within the territory the rights of other states …'. Permanent Court of Arbitration (1928) 2 *RIAA* 829.

international responsibility of that state[31] and give rise to secondary obligations that aim to correct, prevent and repair wrongful behaviour. In this sense, the adoption of the articles on state responsibility has been rightly described as the completion of one of the 'civilizing missions' of international law.[32]

Secondly, both notions of responsibility link past, present and future in a particular way. State responsibility relates existing injuries to past wrongful behaviour that has brought about the undesired event[33] as well as to obligations that aim to guide future (and present) conduct of the wrongdoing state. In this way, state responsibility places the occurrence of undesired events in a bigger narrative of normalcy, disruption and restoration. As Brownlie puts it: 'The question of responsibility is, in practical terms, a matter of insistence on performance or restoration of normal standards of international conduct.'[34] By contrast to the forms of risk-calculation discussed in section 1.1 – that took the regular occurrence of accidents as their starting point – the institution of responsibility for wrongful acts defines undesired events as the result of a disruption of the normal conditions that apply between legal subjects. In similar fashion, state responsibility takes the normalcy of law-abiding behaviour as its starting point and as its end. Therefore, it is not surprising to find that the ILC Articles on State Responsibility emphasize that the existence of a wrongful act does not affect the continued duty of the wrongdoing state to perform the obligation that is breached.[35] The need to protect, restore and confirm the normalcy of norm-abiding behaviour is also visible in the obligation to put an end to the wrongful act and to give, if the circumstances so require, assurances and guarantees of non-repetition.[36] As the ILC Commentary makes clear, the obligation to give such assurances or guarantees should be regarded 'as an aspect of the continuation and repair of the legal relationship affected by the breach'.[37]

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31. Art. 1 of the ILC Articles on State Responsibility.

32. D.J. Bederman, 'Counterintuiting Countermeasures', 96 *AJIL* (2002) pp. 817-832, at p. 817.

33. It is probably needless to say that the legal requirement of a link between the wrongful behaviour and moral or material injury should not be confused with the quest for causality in scientific terms. For a good overview of the issues involved see H.L.A. Hart and A.M. Honoré, *Causation in Law* (Oxford, Clarendon Press 1985). For the construction of facts in legal discourse in general see B.S. Jackson, *Law, Fact and Narrative Coherence* (Liverpool, Deborah Charles Publications 1988).

34. I. Brownlie, *System of the Law of Nations, State Responsibility* (Part I) (Oxford, Clarendon Press 1983) p. 22.

35. Art. 29 states that: The legal consequences of an internationally wrongful act under this Part do not affect the continued duty of the responsible state to perform the obligation breached.

36. For an expression of this obligation see *inter alia*, *La Grand* case (*Germany* v. *United States of America*), Merits, Judgment of 27 June 2001.

37. Commentaries on the Draft Articles on Responsibility of States for Internationally Wrongful Acts, adopted by the International Law Commission at its 53rd session, 2001, p 221.

The idea of restoration of a broken normalcy is probably best expressed in the duty to make 'reparation'. The underlying idea of the obligation to repair injuries (material or otherwise) is, in the words of the Permanent Court of International Justice, 'that reparation must, so far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed'.[38] In accordance with the desire to wipe out the consequences of the disruptive act, the law of state responsibility has a preference for reparation in the form of restitution, that is: the re-establishment of the situation that existed before the wrong was committed (provided, of course, that the changes that occurred were the result of the wrongful act). Other forms of reparation (compensation, satisfaction) only come into play when restitution is impossible, insufficient or disproportionally burdensome for the wrongdoing state.

The responsibility of a state in a concrete case can thus be regarded as a consequence that arises upon an attributable breach of international law and that presses upon the wrongdoing state to put things back in order. The existence of such an obligation does not depend on the invocation of the responsibility of the wrongdoing state by an injured state. However, if it comes to the implementation of such responsibility, attention is traditionally confined to the possibilities of other states to *invoke* the responsibility of the wrongdoing state. In this context, the term 'invocation' is reserved for relatively formal measures such as the presentation of a formal claim against the wrongdoing state or the commencement of judicial proceedings. One of the characteristics of the rules of state responsibility is thus the singling out of specific categories of states as having a legal entitlement to invoke the responsibility of a wrongdoing state. As the long drafting history of the ILC Articles has demonstrated, the determination of those states entitled to invocation of responsibility as well as the determination of scope of their rights is not always without difficulties – especially if it comes to the invocation of responsibility for breaches of obligations that serve extra-state interests, such as human rights or the protection of endangered species. Since this topic has already been dealt with extensively in the literature on state responsibility, I will not further take up this thorny issue here.[39]

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38. *Factory at Chorzów*, Merits, 1928, PCIJ Series A, No. 17, p. 47.

39. See for example, the special issue of the 13 *EJIL* (2002): 'Symposium: Assessing the Work of the International Law Commission on State Responsibility'. A useful classification of the different types of states that are entitled to invoke the responsibility of a wrongdoing state is offered by L. Sicilianos, 'The Classification of Obligations and the Multilateral Dimension of the Relations of International Responsibility', 13 *EJIL* (2002) pp. 1127-1145.

3. COMMON CONCERNS AND RISK MANAGEMENT: THE TURN TOWARDS ACTIVE RESPONSIBILITY[40]

It is a truism that the rules of state responsibility have not always been successful in preventing and responding to undesired events. In several areas – such as the protection of the global environment – it has proven to be difficult to govern behaviour in terms of state obligations arising out of previous breaches of international law. As has been extensively discussed in one of the other contributions to this volume,[41] state responsibility often fails for (a combination of) different reasons: not all harmful behaviour is prohibited, it is not always possible to attribute harmful conduct to a state, it is sometimes difficult to establish a causal relation between wrongful behaviour and damage, the formal invocation of responsibility might be problematic for diplomatic reasons and the rules of state responsibility do not take sufficient account of the capabilities of states to live up to their international obligations. The shortcomings of state responsibility have led to several alternative, or complementary, ways of dealing with undesired events in international law.[42] In this section, I would like to concentrate on two examples of such mechanisms, both reflective of a broader tendency in international law; a tendency to link obligations of states more to common concerns and future events than to harm for injured states resulting from previous violations of international law (although, of course, a violation of those future-oriented obligations may in its turn give rise to traditional state responsibility).

An example of a clearer focus on common concerns is the way in which states are called to account for their behaviour in so called 'non-compliance procedures'.[43]

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40. The term is borrowed from M.A.P. Bovens, *The Quest for Responsibility, Accountability and Citizenship in Complex Organizations* (Cambridge, Cambridge University Press 1998) p. 27. Here, Bovens distinguishes between two (related) concepts, 'passive responsibility' (where the central question is: 'Why did you do it?') to 'active responsibility' (where the central question is: 'What is to be done?').

41. See the contribution of Brunnée, *supra* pp. 21-56.

42. For a discussion see Brunnée, ibid. For other examples of this trend see the attempts to base the obligation of states to respond to undesired events on considerations such as equity, fairness or efficiency. Such attempts are made, *inter alia*, in the concept or principle of 'Common but Differentiated Responsibilities' (CBDR). The CBDR principle holds that, while all states should co-operate to conserve, protect and restore the global ecosystem, developed states are to accept a special role in this regard. As principle 7 of the Rio Declaration puts it: '… In view of their different contributions to global environmental degradation, states have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources on their command.' <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>.

43. Non-compliance procedures can be found, *inter alia*, in the Montreal Protocol on Substances that Deplete the Ozone Layer, the 1993 Framework Convention on Climate Change, the

Since the 1990s, international environmental law has witnessed a proliferation of treaty-specific monitoring bodies entrusted with the tasks of preventing non-compliance, assisting states to comply with their international obligations, responding to non-compliance and facilitating further decision-making relating to non-compliance. A relatively recent example of such a mechanism is the Compliance Committee that was established under the Aarhus Convention.[44] The Compliance Committee considers submissions on non-compliance by state parties, referrals by the Secretariat and, innovatively, communications by the public. In addition, the Committee examines compliance issues on its own initiative, makes recommendations and reports on the compliance with or implementation of the Convention. Finally, the Committee monitors, assesses and facilitates the implementation of and compliance with the reporting requirements of states under the Aarhus Convention. Upon consideration of a report or recommendation of the Committee, the meeting of the parties[45] may decide to take measures such as issuing declarations of non-compliance, issuing cautions or suspending rights and privileges under the Convention.

Non-compliance mechanisms are meant to hold states accountable for their behaviour in a procedure constituted by international law. This procedure, however, sometimes differs significantly from the invocation of state responsibility by injured states discussed in the previous section – as is already indicated by the shift in terminology from 'breach of treaty' to 'non-compliance'.[46] The aim of the non-compliance procedure is not only the restoration of a broken normalcy between a wrongdoing and an injured state (although this might certainly play a role), but

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1994 Protocol on the Reduction of Sulphur or the 1994 Convention to Combat Desertification. For an extensive discussion of non-compliance procedures in international environmental law see M. Koskenniemi, 'Breach of Treaty or Non-Compliance? Reflections on the Enforcement of the Montreal Protocol', 3 *YIEL* (1992) pp. 123-162, J. Werksman, 'Compliance and the Kyoto Protocol: Building a Backbone into a "Flexible" Regime', 9 *YIEL* (1998) pp. 48-105, M. Fitzmaurice and C. Redgwell, 'Environmental Non-Compliance Procedures and International Law', 31 *NYIL* (2000) pp. 35-67; R.R. Churchill and G. Uffstein, 'Autonomous Institutional Arrangements in Multilateral Environmental Agreements: A Little-Noticed Phenomenon in International Law', 94 *AJIL* (2000) pp. 623-659.

44. Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters <http://www.unece.org/env/pp/documents/cep43e.pdf>.

45. The Meeting of the Parties comprises all the parties to the Convention. The meeting of the parties reviews the implementation of the Convention and takes the necessary measures required to achieve the purposes of the Convention.

46. As Koskenniemi has put it: 'This distinction of language might have some positive consequences per se. For "the very term 'breach' contains a pejorative element which does not facilitate the diplomatic handling of the resultant situation". The term 'non-compliance' would not imply that the violated obligation was any less legally binding, only that diplomacy required a more subtle characterization of the act and that its consequences should not, at least not initially, be held to threaten the basis of the treaty relationship.' Koskenniemi, *supra* n. 43, pp. 145, 146. Koskenniemi quotes S. Rosenne, *Breach of Treaty* (Cambridge, Grotius Publications 1985) p. 79.

also (and sometimes primarily) the realization of a common goal through a co-operative effort. Hence, the establishment of collective bodies, the emphasis on dialogue and prevention, the obligation to report, the offering of assistance and the wide variety of (legal) responses to non-compliance.[47] Moreover, non-compliance procedures often help to create deliberative structures that include non-state actors and that facilitate practices of social learning.[48]

An example of the tendency to link obligations of states to future events rather than to previous breaches of law can be found in the ILCs Draft Articles on the prevention of transboundary harm from hazardous activities not prohibited by international law.[49] Building on earlier pronouncements of the duty to prevent under international law,[50] the Draft Articles lay down an obligation for states of origin to take 'all appropriate measures to prevent significant transboundary harm or at any event minimize the risk thereof'.[51] The threshold for the duty to prevent is thus the risk of significant transboundary harm, whereby such risks are understood in terms of the combined effect of the occurrence of an accident and the impact of such an accident, including 'a high probability of causing significant harm and a low probability of disastrous transboundary harm'.[52]

The Draft Articles can be understood as an attempt to stimulate risk management and a mastering of the future. In this context, as the ILC Commentary makes clear, the term 'risk' is to be understood 'objectively, as denoting an appreciation of possible harm resulting from an activity which a properly informed observer had or ought to have had'.[53] Such an understanding of risk comes close to the

47. A recent example of the use of mechanisms of soft responsibility outside the sphere of environmental protection is the way in which the UN Counter Terrorism Committee (CTC) monitors the conduct of states in relation to the obligations and inducements laid down in Resolution 1373 (2001). So far, the CTC has stressed that it is neither a sanctions committee nor a committee that seeks to condemn states. (See UN Security Council, 57th session, 4 and 8 October 2002, p. 5). Instead, the CTC has focussed on assessments of state reports, dialogue and capacity building, setting out best practices, technical assistance and co-operation with regional and global organizations. Apparently, it is believed that calling states to account in non-confrontational ways is more disciplining than a strategy based on formal determinations of breaches and the resulting obligations. For an overview of the working of the CTC see: E. Rosand, 'Security Council Resolution 1373 and the Counter-Terrorism Committee: The Cornerstone of the United Nations Contribution to the Fight Against Terrorism', in C. Fijnaut, J. Wouters and F. Naert, *Legal Instruments in the Fight Against International Terrorism, a Transnational Dialogue* (Leiden, Martinus Nijhoff 2004) pp. 603-633.

48. For a more extensive analysis see Brunnée, *supra* n. 4.

49. Accessible at <http://www.un.org/law/ilc/texts/prevention/prevention_articles(e).pdf>.

50. See for example, the Advisory Opinion of the International Court of Justice on the *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, 8 July 1996 *ICJ Rep*. (1996) p. 15, para. 29.

51. Art. 3.

52. Art. 2.

53. Commentary, p. 385.

conception of risk that was used in the management of accidents from the mid-19th century on. The duty to prevent is linked to risks that are understood in terms of the product of the probability and hazardous effect of 'accidents'. Moreover, the duty to prevent is based on the assumption that an increase in scientific knowledge has improved our possibilities of mastering and predicting the future. In the opening paragraphs of the ILC Commentary, the Commission argues that, 'from a legal point of view, the enhanced ability to trace the chain of causation, …, makes it also imperative for operators of hazardous activities to take all steps necessary to prevent harm'.[54] In this sense, the Commentary uses a conceptualization of 'risk' that is based on the age-old distinction between 'risk' and 'uncertainty' that also informed the rise of insurance in relation to accidents at work. While 'uncertainty' refers to a situation where it is not possible to determine the outcome in a group of instances (e.g., because we are dealing with unique situations), 'risk' refers to a situation where the general outcome in a group of instances is knowable – although it remains uncertain just who is to 'draw one of existence's unlucky numbers'.[55] The identification of risk is thus not the same as recognizing the uncertainty of future events. On the contrary: identification and management of risk is a way of organizing reality, disciplining the future and rationalizing conduct. Historically, in maritime insurance, in the management of accidents and the build-up of the welfare state, the calculability of risk has been used to de-individualize strokes of fate, to make possible acquisitive opportunities and to prevent undesired events.

However, it is questionable whether an increase in scientific knowledge indeed automatically contributes to a transformation from uncertainty to calculable risks. In this context, the uncertainties that surround risk assessment procedures in the sphere of environmental protection are telling. As, amongst others, Raffensberger and Tickner have argued, risk assessment in contemporary society '… is as much policy and politics as it is science. A typical risk assessment relies on at least 50 different assumptions about exposure, dose-response, and relationships between animals and humans. The modelling of uncertainty also depends on assumptions. Two risk assessments conducted on the same problem can vary widely in results'.[56]

Notwithstanding its optimism about the impact of scientific progress, the ILC seems to be aware of the possible return of such uncertainties. When discussing one of the foundations of the Draft Articles (Art. 3), the ILC sets out that the duty to prevent not only rests on the calculability of risk, but also involves 'abundant caution, even if full scientific certainty does not exist, to avoid or prevent serious

54. Commentary p. 377.

55. Ewald, in Burchell et al., *supra* n. 12, p. 203.

56. C. Raffensperger and J. Tickner, eds., *Protecting Public Health and the Environment: Implementing the Precautionary Principle* (Washington DC, Island Press 1999) 'Introduction, To Foresee and Forestall', pp. 1-11, at p. 2.

or irreversible damage'.[57] This echo of the precautionary principle, however, takes us beyond the early modernistic understanding of risks as calculable outcomes into a society that is characterized by reflexive modernization.

4. THE PRECAUTIONARY PRINCIPLE AND REFLEXIVE MODERNITY

As was argued above, the increased awareness of the unintended consequences of modernization has led to the adoption of yet another way of dealing with undesired events: the precautionary approach.[58] The precautionary approach was first laid down in several domestic legal systems as a legal principle requiring serious danger to the environment to be taken into account in decision-making, even when scientific certainty as to the cause and effects of certain actions is lacking. In international environmental law, the principle has found its way in several treaties and declarations such as the Rio Declaration, the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, the Bamako Convention on Transboundary Hazardous Waste into Africa or the Climate Change Convention.[59] Moreover, the precautionary principle is by now firmly rooted in the law and policies of the European Union, both in the Treaty and in the more expanded scope given to the principle in the practice of European institutions.[60] The various texts that include the precautionary principle not only differ in legal status, but also take different approaches to the threshold levels that make the principle applicable, the characterization of the concept of precaution, the obligations that follow from the principle and the possibilities to balance the obligation to take precautionary measures against

57. Commentary p. 395.

58. Von Moltke has argued that the first pronouncement of the precautionary principle was by the German Federal Government in 1976. See K. von Moltke, 'The Vorsorgeprinzip in West German Environmental Policy', 12th Report of the Royal Commission on Environmental Pollution, 1988. Quoted in J. Cameron and J. Abouchar, 'The Status of the Precautionary Principle in International Law', in D. Freestone and E. Hey, eds., *The Precautionary Principle and International Law, The Challenge of Implementation* (The Hague, Kluwer Law International 1996) pp. 29-53, at p. 31. For an overview of the precautionary principle in international law see A. Trouwborst, *Evolution and Status of the Precautionary Principle in International Law* (The Hague, Kluwer Law International 2002). For a discussion of the precautionary principle as a maxim of decision-making see: S. Gardiner, *A Core Precautionary Principle* at <http://faculty.washington.edu/smgard/CPPWeb.pdf>. See also C. Sunstein, *Laws of Fear, Beyond the Precautionary Principle* (Cambridge, Cambridge University Press 2005); A. Trouwborst, *Precautionary rights and duties of states* (Leiden, Nijhoff 2006).

59. For an overview until October 1999 see C. Raffersperger, 'Uses of the Precautionary Principle in International Treaties and Agreements' <http://www.biotech-info.net/treaties_and_agreements.html>.

60. See especially the Communication from the European Commission on the precautionary principle, 2 February 2000.

the obligation to protect other rights and interests. It is not my intention to sort through these complexities here.[61] Rather, I would like to focus on what Freestone and Hey, in the context of international environmental law, have called the essence of the precautionary concept. According to Freestone and Hey: 'In fact, the essence of the precautionary concept, the precautionary principle, is that once a risk has been identified the lack of scientific proof of cause and effect shall not be used as a reason for not taking action to protect the environment.'[62] The core of the precautionary concept has also been applied in the area of human health, food safety and plant and animal health protection.[63] This is reflected in the broader formulation chosen by the 32 experts that drew up the Wingspread statement on the Precautionary Principle. According to the Wingspread formulation, 'where an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically'.[64]

It is no coincidence that the precautionary principle found its way into international law in roughly the same period as sociologists started to discuss the evolution of (world) risk society and issues of reflexive modernity. As the formulations set out above illustrate, the precautionary principle fits into the thesis of risk society in at least three ways.

In the first place, the precautionary principle deals with hazards that were identified by Beck as typical for late modernity: they result of an overproduction (and application) of science and technology and they have a tendency to transcend temporal and spatial borders. The typical contexts in which the precautionary approach is required are the protection of regional areas (such as the North Sea, the Baltic Sea or international lakes) or the global environment (such as the ozone layer) against human activities. Moreover, the precautionary principle is required, not only to forestall visible accidents, but also – and primarily – to prevent gradual degradation, or degradation that results from causes we are now uncertain or unaware of. As Ewald has put it: 'an accident is conventionally defined by its sudden

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61. For an extensive discussion see Trouwborst *supra* n. 58.

62. Freestone and Hey, *supra* n. 58, p. 13.

63. See for example the WTO Agreement on Sanitary and Phytosanitary Measures <www.wto.org>. In the Beef Hormones Dispute, the Appellate Body found that the precautionary principle was reflected in the several articles of the SPS Agreement (specifically in para. 6 of the preamble, Art. 3.3 and Art. 5.7). However, the Appelate Body still upheld 'the panel's conclusions that the precautionary principle would not override the explicit wording of Articles 5.1 and 5.2 …'; WTO Appelate Body, *EC Measures Concerning Meat and Meat Products (Hormones)*, AB-1997-4, 16 January 1998, para 253. For a discussion on scientific uncertainty in relation to WTO law see V.R. Walker, 'Keeping the WTO from Becoming the 'World Trans-science Organization': Scientific Uncertainty, Science Policy and Factfinding in the Growth Hormones Dispute', 31 *Cornell ILJ* (1998) pp. 251-320.

64. At <http://www.gdrc.org/u-gov/precaution-3.html>.

or instantaneous nature. Precautionary injury hardly has this nature; either time is needed for an injury to appear (cases of gradual pollution, climate change), or it is only afterward that we understand that an effect resulted from a cause- a relationship that was, until then, unsuspected'.[65] In this way, the precautionary principle operates in a context where the relation between decision-making, time and the very idea of an 'undesired event' has assumed a fundamentally different character than in early modernist thinking.

In the second place, the precautionary principle reflects the ambivalent role of science in late modernity. It shows that science, in Beck's somewhat cryptic words, has become 'the threat and the promise of emancipation from the threat that it creates itself'.[66] As was set out above, the precautionary principle mainly deals with manufactured risks; risks that are the result of an application of science and technology. In order to deal with these manufactured threats, the precautionary principle embraces science *and* plays down its importance. On the one hand, the precautionary principle heavily relies on scientific knowledge as well as on the belief that scientific progress will contribute to the protection and preservation of the environment. This is visible both in the threshold criteria for the application of the precautionary principle (e.g., the need to demonstrate 'reasonable grounds for concern'[67] or 'likelihood of harm'[68] that has some basis in empirical research) and in the obligations that follow from the application of the precautionary principle (e.g., the obligation to make environmental assessments, to use clean production techniques, to use reliable statistics, to use the best available technology or to stimulate further scientific research). On the other hand, the precautionary principle plays down the role of science by determining that lack of scientific proof should not be used as a reason to forestall protective measures.[69] The need for action in the face of uncertainty should not be understood as referring to a *lack* of scientific knowl-

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65. F. Ewald, 'The Return of Descartes Malicious Demon', in T. Baker and J. Simons, eds., *The Politics of Everyday Fear* (Minnesota: University of Minnesota Press 2002) p. 288.

66. Beck 2005, *supra* n. 22, p. 183.

67. Art. 2(a) of the OSPAR Convention. At <http://www.ospar.org/eng/html/convention/ospar_conv1.htm>.

68. Art. 2(5) of the 1992 Transboundary Watercourses Convention. At <http://www.dniester.org/images/stories/waterconvention.pdf>.

69. Under the traditional formulation, the precautionary principle applies if there is a reliable threat and at the same time uncertainty as to the cause and effect of environmental harm. However, some have argued that it is also possible to apply the precautionary principle in situations where there is uncertainty as to the reality of the injury or probability of the injury. See European Environment Agency, *Late Lessons From Early Warnings, The Precautionary Principle 1896-2000*, at pp. 170 and 192, where a distinction is made between 'risks' (known impacts, known probabilities), 'uncertainty' (known impacts, unknown probabilities) and 'ignorance' (unknown impacts, unknown probabilities). At <http://reports.eea.eu.int/environmental_issue_report_2001_22/en/Issue_Report_No_22.pdf>.

edge only; as a form of decision-making in the context of not-yet knowing. The precautionary principle also functions in contexts where uncertainty is the product of scientific progress itself; in the context of an overproduction of knowledge. The precautionary principle determines, in Flournoy's illustrative formulation, that uncertainty should count as a 'regulatory fact that impels action'.[70] Modernization and scientific progress were traditionally linked to a transformation of uncertainties into risks. In late modernity, however, scientific progress might as well produce uncertainties; apparently up to a point where such uncertainties count as *facts* for decision-makers.

In the third place, the precautionary principle reflects the changing relation between science and political decision-making in late modernity. This changing relationship is nicely captured in Kiss' remark that: 'One of the main characteristics of the precautionary principle is that in those cases where there is scientific uncertainty it moves the real burden of taking decisions from scientists to policy makers-to those whose task it is to govern.'[71] Kiss' remark is interesting, not only for what is says, but also for what it implies – or at least suggests. It suggests that in cases where there is scientific certainty, the burden of taking decisions *does* rest on scientists. This interpretation fits in the Weberian *Idealtype* of political and administrative decision making: a system where the normative assumptions of decision making are articulated in the political process and laid down in formal rules, while the rational application of such rules in concrete circumstances is based on scientific knowledge.[72] The legitimacy of decision making thus comes to rest on two forms of representation: political representation through democratic processes and empirical representation through scientific knowledge.[73] In this model, an increase of scientific knowledge necessarily implies enhanced possibilities for bureaucratic rationality. However, in late modernity, such a relation between science and decision-making has become even more difficult to uphold than before. Scientific progress does not automatically turn uncertainties into calculable risks; it might

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70. A. Flournoy, 'Legislative Inaction: Asking the Wrong Questions in Protective Environmental Decisionmaking', 15 *Harvard ELR* (1991) pp. 327-391, at p. 368.

71. A. Kiss, 'The Rights and Interests of Future Generations and the Precautionary Principle', in Freestone and Hey, *supra* n. 58, pp. 19-28, at p. 27.

72. M. Weber, *Wirtschaft und Gesellschaft*, 3rd edn. (Tübingen, Mohr 1947).

73. For the dual role of representation see also B. Latour, *From Realpolitik to Dingpolitik, or: How to Make Things Public* (2005) at <http://www.ensmp.fr/~latour/articles/article/96-MTP-DING.pdf>. At p. 6 Latour argues: 'What we call an "object-oriented democracy" tries to … bring together two different meanings of the word *representation* that have been separate in theory although they have always remained mixed in practice. The first one … designates the ways to gather the legitimate people around some issue. In this case, representation is said to be faithful if the right procedures have been followed. The second one … presents or rather *represents* what is the object of concern to the eyes and ears of those who have been assembled around it. In this case, a representation is said to be good if the matters at hand have been accurately portrayed.'

very well be the source of new possible hazards and create new uncertainties. Given the possible hazardous consequences of the application of technology (e.g., pesticides, nuclear energy), making mistakes becomes more than a valuable step in scientific learning and the growth of collective knowledge; it could mean catastrophe. Thus, as was set out above,[74] it is not surprising that risk assessments are more and more recognized for what they are: procedures that are as much policy and politics as science. This does not mean that the role of science has become unimportant in late modernity. On the contrary: science is not only the source of many (possible) hazards in risk society, it is also the medium of their definition and it provides the language in which political struggles over their solution are fought out.

The changing relationship between science and decision making once more raises questions of legitimacy and accountability.[75] Viewed pessimistically, the return of uncertainty and the relativity of scientific statements opens up possibilities for the financially well-off to buy favourable scientific arguments – as an ironical twist to the ideal of the free market place of ideas. Viewed optimistically, decision-making under conditions of uncertainty opens up possibilities for more radical forms of democratic control. The need for participatory decision-making was expressed, for example, in the 1998 Wingspread declaration on the precautionary principle. The declaration holds that 'The process of applying the Precautionary Principle must be open, informed and democratic, and must include potentially affected parties.'[76] Similarly, Jordan and O'Riordan have argued that the open and underdetermined nature of the precautionary principle opens up possibilities of procedural legitimacy.[77] Since by definition the precautionary principle needs to be applied in contexts of uncertainty, it is to be expected that individuals and groups will differ in their interpretation of what counts as appropriate precautionary action in a given situation. This implies, according to Jordan and O'Riordan, that the application of

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74. See section 2.2.

75. As Brunnée has argued, the notion of accountability 'involves the justification of an actor's performance *vis-à-vis* others, the assessment or judgment of that performance against certain standards, and the possible imposition of consequences if the actor fails to live up to applicable standards'. Brunnée, *supra* n. 4. For a discussion of the still underdetermined term 'accountability' see also Bovens, *supra n. 40.*

76. At <http://www.gdrc.org/u-gov/precaution-3.html>.

77. A. Jordan and T. O'Riordan, 'The Precautionary Principle in Contemporary Environmental Policy and Politics', in Raffensberger and Tickner, *supra* n. 56, pp. 15-35. See also J. Gupta, 'Glocalization: The Precautionary Principle and Public Participation, with special reference to the UN Framework Convention on Climate Change', in Freestone and Hey, *supra* n. 58, pp. 231-249. For an overview of the relation between the precautionary principle and the need for public consultation see: Commission of the European Communities, 02-02-2000, *Communication from the Commission on the Precautionary Principle*, COM (2000), 1, http://europa.eu.int/comm/dgs/health_consumer/library/pub/pub07_en.pdf.

the precautionary principle involves consultation and the need for democratic procedures.

Such coupling of uncertainty, precaution and consultation may come together in what Latour has recently called an 'object-oriented democracy'.[78] The term 'object-oriented democracy' is chosen to emphasize that political decision-making not only operates in the realm of procedures, but also in the realm of things; things that matter to a public. As we saw above, democratic decision-making on things that concern a public requires two forms of representation: a representation of those who legitimately gather around some issue and a representation of the object of concern. In an object-oriented democracy, 'the same degree of attention (is) given to the two aspects of what it is to represent an issue. The first question draws a sort of place, …, which might be called an assembly, a gathering, a meeting, a council; the second question brings into this newly created locus a topic, a concern, an issue, a topos. But the two have to be taken together: Who is to be concerned; What is to be considered?'[79]

In relation to the precautionary principle, this would imply building on already existing forms of participatory decision-making in environmental law and policy, such as policy dialogues, stakeholder advisory commissions, transparency, notice and comments requirements, etc.[80] However, inclusion of the public should not be confined to decision-making on the basis of given, supposedly neutral scientific knowledge; as a 'bolt-on to the "real" business of expert scientific assessment'.[81] It requires the acknowledgement that scientific research in the environmental sphere often operates in the context of uncertainty, complexity, irreversibility and intense value disputes. As mentioned in section 3, for example, risk assessment procedures are not only based on scientific methods, but also rest on problem-definitions, the selection of relevant issues and factors as well as on appraisals of ignorance and uncertainty. Since such factors are contribute significantly to the outcomes of such assessments, this has spurred calls for so called 'civic science', where citizens are not regarded as mere recipients of science based policy decisions, but as stake-

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78. Latour, *supra* n. 73. See also B. Latour and P. Weibel, eds., *Making Things Public, Atmospheres of Democracy* (Cambridge, MIT Press 2005).

79. Latour, *supra* n. 73, p. 6.

80. For an overview of several domestic processes and institutions that facilitate deliberation in the environmental sphere see H. Weidner and M. Janicke, *Capacity Building in International Environmental Policy: A Comparative Study of 17 Countries* (Berlin, Springer Verlag 2002). For an analysis of processes at the transnational level see J. Dryzek, *Deliberative Democracy and Beyond: Liberals, Critics, Contestations* (Oxford, Oxford University Press 2000). See also from the same author, *The Politics of the Earth: Environmental Discourses* (Oxford, Oxford University Press 1997).

81. A. Stirling, 'Inclusive Deliberation and Scientific Expertise: Precaution, Diversity and Transparency in the Governance of Risk', *PLA Notes*, February 2001, Vol. 40 (17), pp. 66-71, at p. 66.

holders in and co-framers of scientific knowledge production.[82] Of course, this does not imply setting aside expert-knowledge in favour of untested assumptions or giving up scientific methods and rationality. On the contrary: more inclusive procedures aim to (and have proven to be able to)[83] enhance rationality and reflexivity in scientific research by suggesting alternative problem-definitions and research questions and by raising awareness of the contextuality, restrictions and blind spots of specific research projects. In this way, decision-making in the face of risk and uncertainty can be linked more closely to possibilities of social learning.

The link between precautionary action and processes of public critique and social learning is also important in relation to some of the criticisms that have been voiced against the precautionary principle. One of the most important criticisms that the precautionary principle would be opposed to 'sound science', requiring decision-makers to base their decisions on speculation and ambiguity rather than reliable, scientifically backed knowledge.[84] As can be inferred from the analysis above, however, the relation between the precautionary principle and scientific knowledge is more complex than that. If it comes to the threshold of application, the obligations that follow from the principle or the possibility to balance possible precautionary action against the costs and side-effects of such action, the precautionary principle heavily relies on scientific knowledge. At the same time, the precautionary principle is based on the recognition that science, although still highly important, cannot always be regarded as the neutral arbiter of truth and rationality. Rather than being opposed to sound science, the precautionary principle aims to bring together scientific knowledge and public decision-making under conditions of uncertainty, ignorance, irreversibility and disputes about values and interests. Of course, this does not mean that the application or formulation of the precautionary principle in concrete circumstances should always be endorsed. Critics have pointed out, for example, that the way in which the Court of First instance and the European Court of Justice have used the precautionary principle so far leaves much

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82. For a discussion see *inter alia*, Beck's discussion of reflexive science in Beck, *supra* nn. 22, 23, 27; K. Bäckstrand, 'Civic Science for Sustainability: Reframing the Role of Experts, Policy-Makers and Citizens in environmental Governance', 3 *Global Environmental Politics* (2003) pp. 24-41; F. Fischer, *Citizens, Experts and the Environment. The Politics of Local Knowledge* (Durham, Duke University Press 2000). M. Wissenburg and Y. Levy, eds., *Liberal Democracy and Environmentalism* (Oxford, Routledge 2003). See also the reports by the International Council for Science: ICSU Series No. 4, *Science, Traditional Knowledge and Sustainable Development*, and No. 9, *Science and Technology for Sustainable Development*, 2002.

83. See for example the discussion by Stirling, *supra* n. 81. See also the reports by the International Council for Science (2002).

84. See R. Pieterman, J.C. Hanekamp and L. Bergkamp, 'Onzekere Voorzorg Bedreigt Rechtszekerheid', 81 *NJB* (2006) pp. 2-8; and the reference to authors who are critical on the precautionary principle.

to be desired in terms of precision and coherence.[85] Such criticism, however, does not affect the value or necessity of the precautionary principle as such. Under conditions of reflexive modernity, it is both unrealistic and undesirable to ignore the contextuality of scientific research or the existence of uncertain and possibly irreversible risks. The points raised by the critics rather underline a point that has been brought up by several advocates of the precautionary principle: the need to embed the application of the principle in a broader framework that institutionalises critique, deliberation and social learning.

Another important critique of the precautionary principle is that the maxim to be precautious, in and of itself, offers little practical guidance for action. Taking precautionary action, after all, involves the taking of risks as well. The banning of new technologies or medicines, for example, may prevent possible harm but may also block possible benefits resulting from those medicines and technologies.[86] Therefore, it would be incorrect to hold that advocates of precaution are more risk-aversive than critics of a precautionary approach. Rather, taking precautionary action involves the selection of dominant values, perceptions of what counts as acceptable risks and assessments of the possible costs of precautionary action. The precautionary principle thus operates in a continuous discourse on the prioritization of values, the selection of acceptable risks and the effects of precautionary action. Historically, the principle developed as a counterweight to the insufficient attention for environmental and health concerns in law and policy as well as the shortcomings of traditional structures of responsibility in dealing with risks of late modernity. However, this does not mean that the principle always trumps competing values. The precautionary principle, after all, is a *principle*; a reason that guides action in favour of certain values (such as environmental preservation) without

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85. For a (radical) formulation of this critique see G.E. Marchant and K.L. Mossman, *Arbitrary and Capricious: The Precautionary Principle in European Courts* (Washington DC, American Enterprise Institute 2004).

86. As Miller and Gregory have argued: 'What is missing from precautionary calculus is an acknowledgment that even when technologies introduce new risks, most confer net benefits – that is, their use reduces many other, often far more serious, hazards'. H.I. Miller and G.C. Conko, 'The Perils of Precaution', 107 *Policy Review* (2001) at <http://www.policyreview.org/jun01/>. One of the fora for critique on the precautionary principle is the on-line publication 'Spiked', <http://www.spiked-online.com>. See for example: H. Guldberg, 'Challenging the precautionary principle', <http://www.spiked-online.com/Articles/00000006DE2F.htm>; S. Starr, 'Science, Risk and the Price of Precaution', 1 May 2003, <http://www.spiked-online.com/Articles/00000006DD7A.htm>. For a nuanced critique of the precautionary principles along these lines see Sunstein, *supra* n. 26. For a defence of the precautionary principle against such critique see *inter alia*, Gardiner, *supra* n. 58; A. Arcuri 'The law of catastrophic risks. Or: what to do when the impossible may erupt into the possible', 55 *Ars Aequi* (2006) pp. 130-137; C. Collier, B. Julien and N. Treich, 'Scientific Progress and Irreversibility: An Economic Interpretation of the Precautionary Principle', 75 *Journal of Public Economics* (2000) pp. 229-253.

predetermining legal or political decisions.[87] It does not do away with the tasks of balancing, deciding and deliberation that lie at the heart of public decision-making.

4. CONCLUSION

This article has examined the move from passive to active forms of responsibility of states under international law; the development of legal structures that relate obligations of states not to previous wrongful acts but to the management of risks and the realization of a common future. Of course, the rules of state responsibility remain relevant to those future-oriented obligations as well as to obligations related to common or community interests (after all, violations such obligations might still give rise to traditional state responsibility). Yet, the shift towards more active forms of responsibility can be regarded as a response to the limited effectiveness of the traditional regime of state responsibility in fields such as environmental protection. The turn towards more active forms of responsibility, however, has itself become complicated under conditions of late modernity. The role of science and technology in late modernity, coupled with the existence of uncertain and potentially irreversible harm has made it difficult to rely on traditional methods of mastering the future. This has given rise to a specific form of active responsibility: the obligations following from the precautionary principle; a principle that reflects the significant changes that have taken place in the relation between scientific experts, public decision-makers and citizens. Responding to undesired events is not only a matter of putting things back in order or mastering future harm through risk; it is also a matter of decision-making on the basis of contextual and uncertain knowledge about potentially catastrophic events.

ABSTRACT

This contribution builds on some earlier studies on the shortcomings of and ways around the traditional model of State responsibility under international law. It aims to obtain a better understanding of the nature of State responsibility, the reasons for its failure in some contexts and the basic characteristics of some alternative, complementary mechanisms that have been developed in international law. To that end, it understands the rules of State responsibility in a functional way: as a way of organizing our dealings with undesired events or situations. This under-

87. For a discussion of the nature of principles in law see R. Dworkin, *Taking Rights Seriously* (London, Duckworth 1977) and R. Dworkin, *Law's Empire* (Cambridge MA, Harvard University Press 1986).

standing of State responsibility makes it possible to compare the rules of State responsibility with some other ways of dealing with undesired events. Following Francois Ewald's distinction between 'responsibility', 'insurance' and 'precaution', three co-existing models of dealing with undesired events will be discussed: (1) State responsibility for internationally wrongful acts (dealing with the reparation of a broken normalcy); (2) risk-management (dealing the mastering of time and disciplining of the future) and (3) precaution (dealing with conditions of late modernity or 'world risk society').